

A comprehensive study of corneal tissue responses to customized surgical treatments

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Propositions

1. Corneal stiffness can be a diagnostic marker for sub-clinical keratoconus detection (chapter 2) and post-refractive surgery tissue healing (chapter 4).
2. In-vivo measurement of corneal viscosity using the Corvis-ST may not be possible in its current configuration (chapter 3).
3. The postoperative healing patterns of different refractive surgery procedures can be used in building surgery specific predictive finite element simulations (chapters 4 and 5).
4. Low predicted postoperative corneal stiffness and preoperative parameters matching the ectasia nomogram can lead to high post-refractive surgery ectasia risk (chapter 6).
5. Customized corneal crosslinking using corneal degeneration estimation can achieve results comparable to the Dresden protocol (chapter 7).
6. The use of artificial intelligence and machine learning should be greatly encouraged in the field of medicine.
7. The field of ophthalmology needs a commonly accepted data format for information exchange to boost scientific research.
8. Personalized medical care is the future, as no two patients have the exact disease presentation or tissue responses after surgery.
9. The SARS-CoV-2 virus has managed to uproot many lives, but as history tells us this too shall pass, and life will go on.